City of Pullman
Comprehensive Plan Update

Land Use Scenarios
Final Technical Memorandum

January 23, 2018

CITY OF PULLMAN
WASHINGTON

DAVID EVANS AND ASSOCIATES INC.

Table of Contents

List of Tables

List of Figures

List of Acronyms

ACS	U.S. Census Bureau American Community Survey
DEA	David Evans and Associates, Inc.
DUA	Dwelling Units per Acre
SR	State Route
UGA	Urban Growth Area
WSU	Washington State University

Comprehensive Plan Update Process

The City of Pullman's current Comprehensive Plan was adopted in 1999, and amendments related to population forecasts, the Land Use Plan Map and associated policies adopted in 2013 have followed. Because of the age of the current plan, the City has contracted with David Evans and Associates, Inc. (DEA) to assist in a full update to the Comprehensive Plan.

As a first step, City staff collected information on existing conditions and trends in the region. This information is summarized in the Existing Conditions and Future Forecast Technical Memorandum, and was used to develop and compare the alternative scenarios in this report.

On May 5, 2016, the City planning department conducted a meeting at City Hall to solicit input from community members regarding existing and proposed policies for the Comprehensive Plan Update. The policies and vision statement serve as a blueprint to guide growth and development within the City for a 20- to 50-year planning horizon, in a manner that reflects the collective values of the community as a whole. A total of 25 citizens attended the workshop, including several Planning Commission and City Council members. Planning staff members provided a written synopsis of the existing and proposed policies and requested verbal and written feedback from those in attendance. This report uses the resulting policy statements to compare the alternative land use scenarios.

Purpose of Report

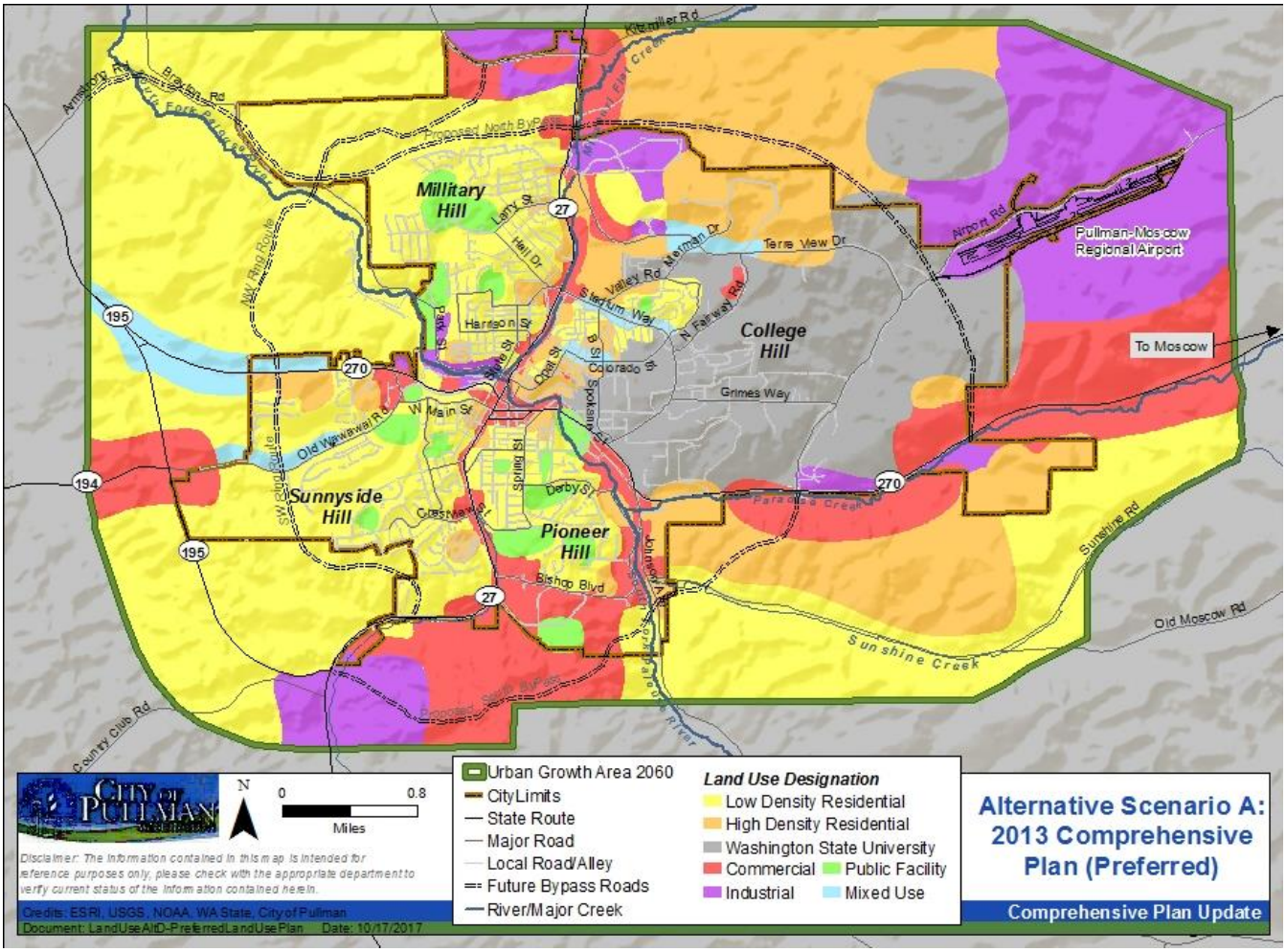
City staff members developed three preliminary alternative land use scenarios that address issues identified in the Existing Conditions and Future Forecast Technical Memorandum, and that are consistent with the policies and vision refined during the workshop: one scenario leaves the existing (2013) comprehensive plan designations substantially unchanged, and two substantially change the focus of growth. This report provides a description of the three scenarios and a high-level evaluation. This technical report and accompanying maps were used by the public, City officials, and City staff members to determine the preferred growth pattern for the updated Comprehensive Plan for the City of Pullman. Through the public open houses and the Planning Commission meetings, the scenarios were refined and the Preferred Land Use Scenario was identified.

Alternative Scenarios

Alternative Scenario A: 2013 Comprehensive Plan—Preferred

This scenario would provide areas for growth outside the city limits, within the existing Urban Growth Area (UGA). New development would occur within the UGA in order to preserve the prime agricultural land surrounding the City (see Figure 1). The City of Pullman's UGA designates land supply for new development until 2060. The planned growth extends in every direction, especially to the west, south, and east of the current city limits. The dispersed land use pattern would be consistent with the currently adopted Comprehensive Plan Land Use Plan Map (2013).

Figure 1. Alternative Scenario A: 2013 Comprehensive Plan (Preferred)



This alternative would encourage development of housing at lower densities and less intensive commercial and industrial development compared to Scenarios B and C. Most land within the UGA would be designated low-density residential, devoted to single-family homes on larger lots. This dispersed residential pattern would occur at the north, west, and southeast outskirts of the city, creating a transition between the existing higher-density core and the rural farmland outside the city. However, there would be two areas of high-density residential: north and west of the WSU campus, and at the southeast city limits south of State Route (SR) 270.

This alternative would include a new mixed-use designation, which would allow housing as well as commercial. These would be along SR 270 from the junction with SR 195 eastward, on Old Wawawai Road east of SR 194, NE Terre View Drive at NE Merman Drive, NE Stadium Way at NE Valley Road, and NE Colorado Street at NE B Street.

Commercial development would continue to be focused along SR 27 and SR 270, along SE Bishop Boulevard on Pioneer Hill and at the junction of SR 194 and SR 195, but it would be much expanded between SR 270 and the airport.

Industrial designations would remain on NW Park Street/NW Guy Street along the South Fork of the Palouse River; in the vicinity of the industrial park at the north edge of the city, east of SR 27; along Albion Road, west of SR 27; along SR 270, at the south edge of College Hill; and at the southwest limit of the UGA, along SR 27.

Discussions during the public open house on April 24, 25, and 27, 2017, and the Pullman Planning Commission meetings on May 24 and June 28, 2017, identified Alternative Scenario A as the preferred. Since there have been few changes in local circumstances since the 2013 land use plan adoption (Alternative Scenario A), opinion favors retaining that update with these directions:

- Retain the boundaries of the existing UGA, as the overall size of the city's UGA still meets the needs of the city's steady rate of growth.
- Within the UGA, enable compact development.
- Add more high-density residential within the existing UGA boundaries.
- Convert land use designations at the Pullman-Moscow Regional Airport and its environs to industrial.
- In order to enable residential neighborhoods to be self-sufficient with nearby commercial, parks, and schools, add a new mixed-use designation that would allow for commercial as well as residential development.
- Ensure that transportation, particularly the existing and proposed ring routes and bypass routes, and land use are linked.

Alternative Scenario A was modified to include these refinements.

Alternative Scenario B: Compact Higher Density

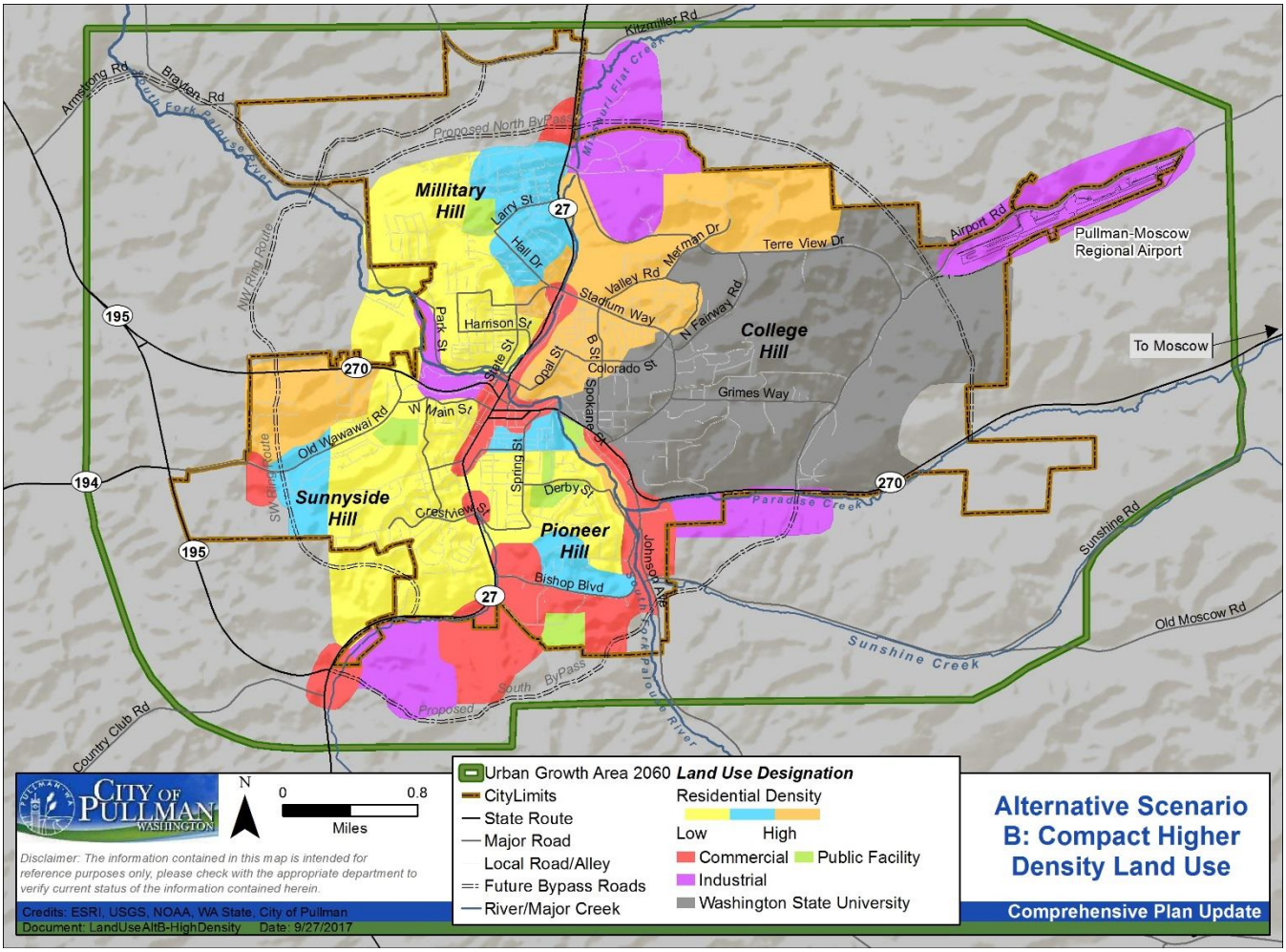
This scenario would center around a compact, high-density center with decreasing density outward, but within the existing UGA (see Figure 2).

Scenario B would provide less low-density residential than Scenarios A or C. Instead of mainly commercial with some low-density residential along SE Bishop Boulevard as in Scenario A, Scenario B would designate the north side of Bishop for medium-density residential and the south side for commercial. Additional areas of medium-density residential would be south of downtown, in the southwest portion of Sunnyside Hill, and in the northeast portion of Military Hill. High-density residential would be less dispersed than in Scenario A, with two major areas in the north and west portions of College Hill, and at the west city limits on Sunnyside Hill, between SR 270 and Old Wawawai Road.

Under Scenario B, commercial areas would be more concentrated than under Scenario A. Commercial would be focused downtown and adjacent to medium- and high-density residential, particularly at the south end of the city, to help create walkable hubs for community activity that are located close to where people live.

Industrial areas would be expanded beyond the north city limits and along SR 27 and SR 270 in the south. Industrial areas would be retained along the Palouse River and the south edge of College Hill. The airport would be designated industrial instead of commercial.

Figure 2. Alternative Scenario B: Compact Higher Density Land Use



Alternative Scenario C: Pullman-Moscow Corridor

The Pullman-Moscow corridor is along SR 270, which connects the two cities (see Figure 3). The purpose of Scenario C is to enable corridor growth that would foster a stronger link between the two cities and especially between Washington State University (WSU), the largest employer in Whitman County,[1] and University of Idaho in Moscow, the largest employer in Latah County.[2]

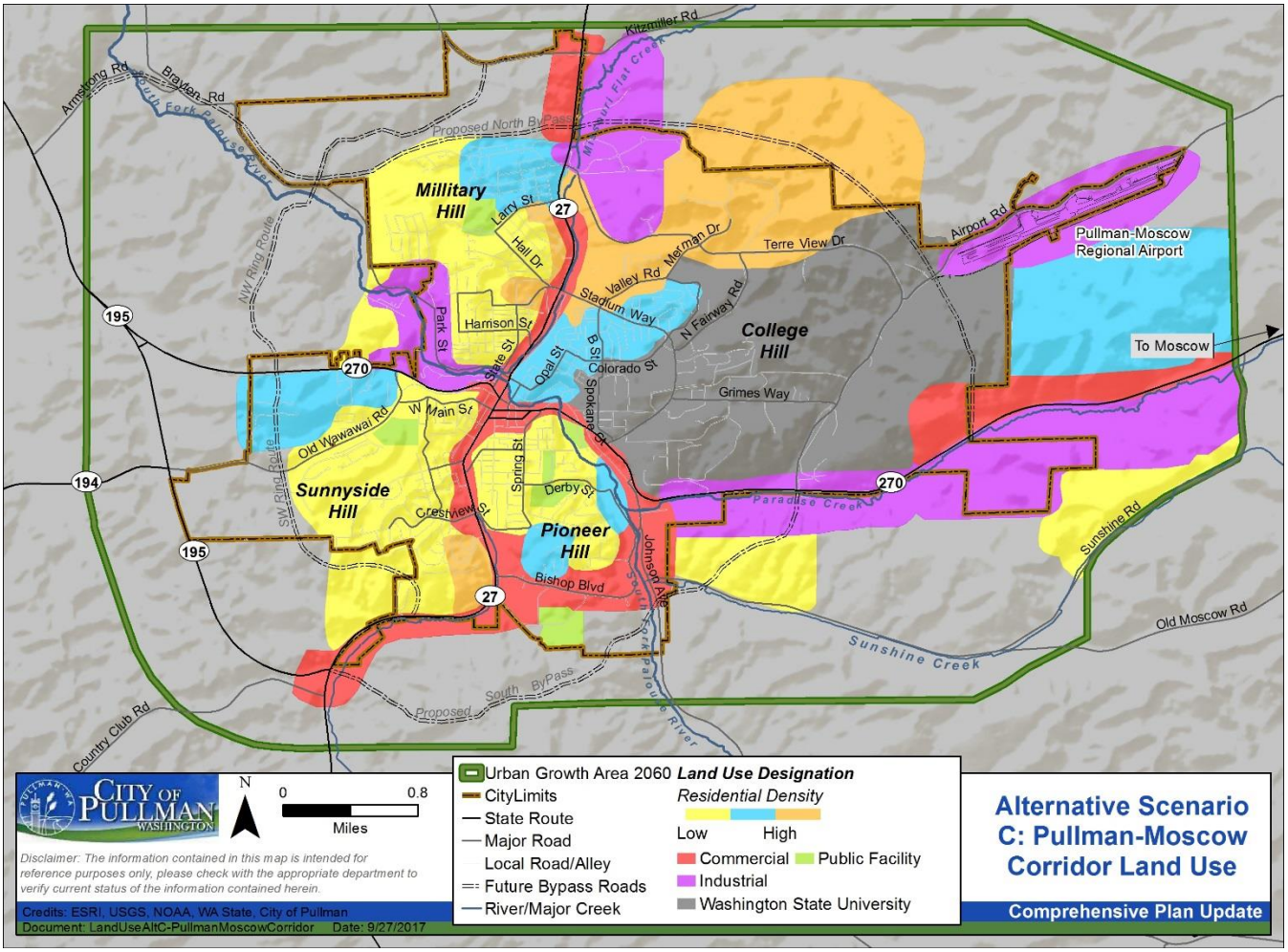
In terms of growth relative to city limits, Scenario C is between Scenario A, which directs some growth outside of the city limits, and Scenario B, which limits growth to almost entirely within the city limits. Scenario C allows for much more commercial, industrial, and medium-density residential growth than Scenarios A and B, and it would be mostly along the highway corridors.

Scenario C includes less low-density residential than Scenario A, similar to Scenario B. It includes more medium-density and less high-density residential than A or B. Scenario C would replace the Scenario B high-density residential areas in College Hill adjacent to downtown and between SR 270 and Old Wawawai Road with medium-density residential. Most of the area between the airport and SR 270 would be designated for medium-density housing.

Scenario C would provide much more commercial or industrial than Scenarios A or B, particularly south and east of College Hill in the SR 270 corridor. This scenario would concentrate industrial growth in the corridor and adjacent to the airport, both within and outside of the city limits, within the existing UGA. The main constraint in the corridor is lack of water and sewer. Provision of sewer and water would enable development.

[1] Washington State Employment Security Department, Whitman County Profile, 2016.
[2] Idaho Department of Labor, Latah County Workforce Trends, 2016.

Figure 3. Alternative Scenario C: Pullman-Moscow Corridor Land Use



Future Needs

The proposed availability of residential land must be compared to expected housing needs, and commercial and industrial land to potential jobs in order to ensure that the alternative scenarios are likely to provide sufficient proportions of land.

The projected population and employment of Pullman from the Existing Conditions and Future Forecast Technical Memorandum is used to estimate future housing unit need and employment land need. Tables 2 and 4 calculate the availability of residential, commercial, and industrial land under each scenario in order to compare them to each other.

Land in the WSU campus is included in neither the residential calculations nor the employment calculations. The student population is accounted for by subtracting 20 percent of the projected population, as explained below. Land in the public facility category is not included separately because the net dwelling units per acre (DUA) in the housing unit calculation account for public facilities.

Future Housing Unit Need

The City of Pullman Zoning Code contains five residential zones, which are described in Table 1.

Table 1. Pullman Residential Districts and Maximum Allowable Density[3]

Density	District	DUA	District name
Low-density	R1	7	Single-Family Residential District
	RT	10	Residential Transitional District
	R2	15	Low-Density Multi-Family Residential District
Medium-density	R3	29	Medium-Density Multi-Family Residential District
High-density	R4	44	High-Density Multi-Family Residential District

The maximum allowed DUA in each district is higher than the average actual density in the city. For the purpose of comparing the alternative scenarios, lower DUAs are used, as shown in Table 2, which are aligned with actual existing densities. The gross acres in Table 2 include both vacant and occupied land. Gross acres are an estimate based on the mapping of the three scenarios. Net acres subtracts a percentage of land that will be used for streets, sidewalks, parks, and other public facilities. A lower percentage is assumed for high-density residential, because more common open space is provided in high-density housing to offset less private outdoor space. The result is the number of existing and potential housing units expected per acre of land.

Table 2. Alternative Scenario Housing Comparison

	Scenario A: 2013 Comprehensive Plan—Preferred	Scenario B: Compact Higher Density	Scenario C: Pullman-Moscow Corridor
Low residential (R1, RT, R2)			

[3] Zoning Code of the City of Pullman.

Gross acres[4]	8,124	1,574	1,954
Net acres (80% of gross)	6,499	1,259	1,563
Assumed density (DUA)	3	4	4
Units	19,498	5,037	6,253
Medium residential (R3)			
Gross acres[5]	0	474	1,317
Net acres (80% of gross)	0	379	1,053
Assumed density (DUA)	6	12	10
Units	0	4,551	10,534
High residential (R4)			
Gross acres[6]	1,924	1,021	1,160
Net acres (75% of gross)	1,443	765	870
Assumed density (DUA)	12	20	16
Units	17,320	15,308	13,923
Total units	36,818	24,895	30,710

Future housing need is calculated in the Existing Conditions and Future Forecast Technical Memorandum. Future population projections are from the U.S. Census Bureau American Community Survey (ACS). The projected housing units needed is calculated by subtracting 20 percent of the projected population to account for group quarters (WSU students)[7] and dividing by the average Pullman household size (2.18 persons per household).[8] From the resulting housing need, the approximately 12,655 existing dwelling units that the City estimated in 2015 is subtracted to determine the additional new units needed.

[4] City of Pullman GIS, 2016.
[5] City of Pullman GIS, 2016.
[6] City of Pullman GIS, 2016.
[7] Washington Office of Financial Management, 2016. Population Estimate Review Worksheet: 6,209 group quarters and 32,654 total population.
[8] U.S. Census Bureau, 2010 Census. 2010 Census Summary File 1. Profile of General Population and Housing Characteristics: 2010.

Table 3. Future Housing Needs

Future Housing Needs 2020–2060				
Year	Pullman Population	Population in Group Housing	Total Projected Housing Units Needed	Additional New Housing Units To Meet Need, Based on 2015 Existing Units[9]
2035	38,621	7,724	14,173	1,518
2060	46,000	9,200	16,881	4,226

All three scenarios would be expected to more than meet the projected housing need in 2035 and 2060. Alternative Scenario A would provide one-third more total housing units than Scenario B and one-sixth more than Scenario C.

Future Employment Land Need

Jobs are calculated by multiplying the number of acres of the land use type (commercial or industrial) by the assumed jobs per acre and by the floor area ratio,[10] which is assumed to be 1.0. Scenario A allows more commercial land because it includes expansion throughout the UGA. Scenario B is focused on targeting medium- and high-residential density and associated commercial services in the city's core. Scenario C focuses on industrial uses along SR 270 and the Pullman-Moscow corridor. The three scenarios are compared in more detail in the next section.

Table 4. Alternative Scenario Employment Comparison

	Scenario A: 2013 Comprehensive Plan—Preferred	Scenario B: Compact Higher Density	Scenario C: Pullman-Moscow Corridor
Commercial (C1, C2, C3)			
Acres[11]	3,467	741	1,049
Assumed density	8 jobs/acre	16 jobs/acre	12 jobs/acre
Jobs	27,739	11,863	12,589
Industrial (I1, I2, IRP)			
Acres[12]	736	1,104	1,841
Assumed density	4 jobs/acre	12 jobs/acre	8 jobs/acre
Jobs	2,945	13,246	14,724
Total acres	4,203	1,845	2,890
Total jobs	30,683	25,108	27,313

[9] Based on City of Pullman's 2015 estimate of total existing housing units (12,655) using American Community Survey, Selected Social Characteristics (DP-02), 2009–2013.
[10] Floor area ratio is a formula used to regulate the dimensions of buildings. The floor area ratio is multiplied by the maximum building area allowed on a lot to determine the maximum square feet allowed for a building.
[11] City of Pullman GIS, 2016.
[12] City of Pullman GIS, 2016.

Comparison of Alternative Scenarios

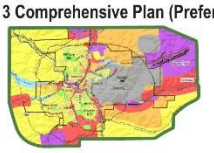
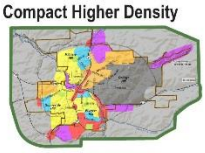
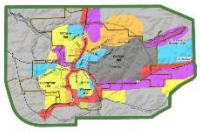
For the alternative scenario comparison table (Table 5), the potential effects and needs of the three alternative scenarios are described relative to each other. Each alternative is evaluated for its expected ability to meet the intent of the six policy categories, which appear in the first column of the table. Many policies and issues would be addressed the same way under all three alternatives; those are not included in the table. This summary is intended as a high-level way to compare the alternatives, and does not prioritize potential effects or needs. Figure 4 illustrates and summarizes the three alternative scenarios, and outlines the form; type of housing, commercial, and industrial development, and the positive and negative impacts of each one.

Table 5. Alternative Scenario Comparison

	Scenario A: 2013 Comprehensive Plan—Preferred	Scenario B: Compact Higher Density	Scenario C: Pullman-Moscow Corridor
Land Use	• More land within the UGA would be converted from farmland • Low-density residential at the city edge would provide a transition area to rural farmland • New mixed use designation	• More efficient use of land within the city limits—less land converted from farmland • Medium-density residential would provide a transition between high- and low-density residential	• More efficient use of land within the city limits—less land converted from farmland • Medium-density residential would provide a transition between high- and low-density residential
Community Design	• More dispersed development could better accommodate Pullman's natural resources	• Expansion of industrial along NW Park Street/NW Guy Street near the South Fork of the Palouse River may conflict with goal of protecting the resources	• Expansion of industrial along NW Park Street/NW Guy Street near the South Fork of the Palouse River may conflict with goal of protecting the resources
Housing	• Mixture of low-, medium-, and high-density, including mixed-use designation, would provide sufficient types and prices suitable for all residents' needs and incomes	• Mixture of low-, medium-, and high-density would better provide sufficient types and prices suitable for all residents' needs and incomes	• Mixture of low-, medium-, and high-density would better provide sufficient types and prices suitable for all residents' needs and incomes
Transportation	• Dispersed development would place demands on	• Concentrated development would support active transportation	• Somewhat concentrated development would

	Scenario A: 2013 Comprehensive Plan—Preferred	Scenario B: Compact Higher Density	Scenario C: Pullman-Moscow Corridor
	active transportation system • Parking may be less challenging	• Parking in core areas may be more challenging	somewhat support active transportation • Parking in core areas may be more challenging
Parks and Open Space	• Dispersed residential development may require less passive open space	• Denser residential development may require more passive open space	• Denser residential development may require more passive open space
Capital Facilities and Infrastructure	• More investment in infrastructure and services to serve dispersed development	• Less investment in infrastructure and services to serve concentrated development	• More investment in infrastructure and services to serve large areas of industrial and commercial land

Figure 4. Land Use Scenarios Comparison

	Scenario A 2013 Comprehensive Plan (Preferred)	Scenario B Compact Higher Density	Scenario C Pullman-Moscow Corridor
			
FORM	**Dispersed** *Mostly outside limits*	**High-Density Center** *Almost entirely within limits*	**Corridor** *Within & outside limits*
HOUSING	**Lower Density** *Single family homes on larger lots extending from city limits on the west; high density on the east and mixed-use along major corridors*	**Higher Density** *College Hill, south of downtown, Bishop Blvd, Sunnyside Hill and NE Military Hill*	**Medium Density** *Various locations within city limits and south of airport*
COMMERCIAL	**Less Intensive** *SR 27, SR 270, SR 195, Airport, and SE Bishop Blvd*	**More Intensive** *Adjacent to medium- and high- density residential*	**More Intensive** *Highway corridors*
INDUSTRIAL	**Less Intensive** *Along river, north and south part of city, Albion Road, SR 270* **More Intensive** *Airport*	**Moderately Intensive** *North and south city limits, SR 270, and airport*	**More Intensive** *Highway corridors, airport*
POSITIVE IMPACTS	**Positive Impacts** • *Transition area to rural farmland* • *Mixed-use along major corridors* • *Parking may be less challenging* • *Less passive open space needed*	**Positive Impacts** • *Less converted farmland* • *Sufficient housing variety* • *Dense enough to support active transportation* • *Less investment in infrastructure and services to serve concentrated development*	**Positive Impacts** • *Takes advantage of existing corridor transportation facilities* • *Smoother transition between high- and low-density* • *Less converted farmland* • *Sufficient housing variety* • *Dense enough to support some active transportation*
NEGATIVE IMPACTS	**Negative Impacts** • *More converted farmland* • *Less housing variety* • *Not dense enough for active transportation* • *More investment in infrastructure and services to serve dispersed residential*	**Negative Impacts** • *More land use conflicts between high- and low-density* • *Parking in core areas may be more challenging* • *More passive open space needed*	**Negative Impacts** • *Lack of water and sewer lines in corridor* • *Detracts from pastoral setting in corridor* • *Parking in core areas may be more challenging* • *More passive open space needed* • *More investment in infrastructure and services to serve large areas of industrial and commercial*

References

City of Pullman. 2016. GIS.

_____. 1987, with amendments. *Zoning Code of the City of Pullman*. Available online at: http://www.codepublishing.com/WA/Pullman/. Accessed on: October 20, 2016.

Idaho Department of Labor. 2016 (October). *Latah County Workforce Trends*. Available online at: http://labor.idaho.gov/publications/lmi/pubs/latahProfile.pdf. Accessed on: November 1, 2016.

U.S. Census Bureau. 2010. 2010 Decennial Census, Census Summary File 1. *Profile of General Population and Housing Characteristics (DP-01)*.

_____. 2015. American Community Survey (ACS) *2009–2013 5-Year Estimates Selected Social Characteristics in the United States (DP-02)*.

Washington Office of Financial Management. 2016. *Population Estimate Review Worksheet*. Available online at: https://www.ofm.wa.gov/washington-data-research/population-demographics. Accessed on: November 16, 2016.

Washington State Employment Security Department. 2016 (August). *Whitman County Profile*. Available online at: https://fortress.wa.gov/esd/employmentdata/reports-publications/regional-reports/county-profiles/whitman-county-profile. Accessed on: November 1, 2016.